

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
17 June 2004 (17.06.2004)

PCT

(10) International Publication Number
WO 2004/050698 A2

(51) International Patent Classification⁷: **C07K 14/47**

WALDECK, Waldemar [DE/DE]; Tilsiter Strasse
49, 69514 Laudenbach (DE).

(21) International Application Number:
PCT/EP2003/013413

(74) Agent: **SCHÜSSLER, Andrea**; Huber & Schüssler, Trud-
eringer Str. 246, 81825 München (DE).

(22) International Filing Date:
28 November 2003 (28.11.2003)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR,
CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,
MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,
SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
02026700.1 29 November 2002 (29.11.2002) EP

(84) Designated States (*regional*): ARIPO patent (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*):
**DEUTSCHES KREBSFORSCHUNGSZENTRUM
STIFTUNG DES ÖFFENTLICHEN RECHTS**
[DE/DE]; Im Neuenheimer Feld 280, 69120 Heidel-
berg (DE).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **HECKL, Stefan**
[DE/DE]; Steubenstrasse 28, 69120 Heidelberg (DE).
BRAUN, Klaus [DE/DE]; Bruchhausen 20, 69207
Sandhausen (DE). **PIPKORN, Rüdiger** [DE/DE];
Adolf-Rauch-Strasse 3, 69124 Heidelberg (DE).

Published:

— *without international search report and to be republished
upon receipt of that report*

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: CONJUGATE USEFUL FOR CELL NUCLEUS MOLECULAR IMAGING AND TUMOR THERAPY

(57) Abstract: Described is a conjugate comprising (a) an amphiphilic transport peptide of human origin as a transmembrane module (TPU), (b) a nuclear localization sequence (NLS) and (c) a signalling and/or drug carrying module (SM), preferably comprising Gd, Ga, Fe, Mn, I and/or F as (diagnostic) image creating compound. Said conjugate is useful for diagnostic purposes, e.g., for cell tracking by MRI, as a contrast agent (e.g., replacing a "biopsy clip") for MRI, or for determining the activity of DNA repair enzymes by MRI. Said conjugate is also useful for therapy, e.g., for chemotherapy or intranuclear Gadolinium Neutron Capture Therapy (GNCT).

WO 2004/050698 A2